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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,184

12/22/2005

Wan Young Lee

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EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/562,184	Applicant(s) LEE, WAN YOUNG	
	Examiner James Keenan	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 and 6-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 3, --cargo-- should apparently be inserted after “unloading”;
lines 5-6, the recitation “alternately overlapped with” is unclear;
line 16, --a-- should be inserted before “bottom”;
and lines 17 and 19, the recitations “keep the rollers rolling” and “being the same level”, respectively, are unclear.

Claim 6, line 3, the recitation “plates is” is grammatically incorrect;
and line 4, the term “preferably” is vague and subjective.

Claim 11, it is unclear what is meant by “neighboring shafts of the respective rollers”.

Claim 12 should depend only from claim 11, as there is no antecedent basis in claim 1 for “the drivingly coupled rollers”;

and line 3, the term “desired” is vague and subjective.

Claim 13, last line, it is not clear what is meant by “different cargo”.

Claim 14, line 3, --a-- should be inserted before “roller” and “a ... intervals” is grammatically incorrect;

and last line, “neighboring shafts of ... rollers” is unclear.

Claim 15 should depend only from claim 11, as there is no antecedent basis in claim 1 for "the roller row".

Claim 17, it is not clear what is meant by " placing the cargo rolling into the fork bars".

Claims 18 and 19, the recitation of "the motor" lacks antecedent basis.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541, previously cited) in view of Morfin (US 5,829,941) and Gebhardt (US 4,715,766, previously cited) or Holscher et al (US 5,599,154, previously cited).

Lee shows a loading and unloading stand of a palletless rack type storage system comprising racks 10 having a loading fork 23 and a stacker crane 40 for loading cargo to or unloading cargo from the racks, the stacker crane having a transfer fork 30 arranged to enter into, move up and down relative to and retreat from the loading fork (e.g., see figs. 6-10), the stand comprising a plurality of fork bars 20 arranged lengthwise at an interval to each other and being fixedly mounted on longitudinal beams 13 (fig. 2), wherein a free end of each of the fork bars is cantilevered, and wherein at

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least a portion of the stand is at an edge of an entrance of a floor of the racks and is at the same level as a “conveyor” 16 (fig. 10), as broadly claimed.

Lee does not have driven rollers protruding above the top surface of the fork bars for contacting a bottom surface of the cargo and moving it in a loading or unloading direction.

Morfin shows rollers 61 (figs. 8 and 9) protruding above the top surface of similar fork bars 60 for assisting in loading or unloading cargo to and from the forks, but the rollers are not driven.

Gebhardt and Holscher both show powered rollers in a similar environment for loading and unloading cargo to and from storage.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Lee by utilizing powered rollers on the fork bars, as jointly suggested by Morfin and Gebhardt or Holscher, as this would simply be a well known and art recognized means of manipulating cargo to and from a storage location.

Re claim 10, note Lee shows one beam supporting an end of the fork bars and another beam supporting the middle of the fork bars, with the other end of the fork bars open to receive the transfer fork (fig. 2).

Re claims 11-15, the specific arrangement of and drive mechanism for the rollers are considered obvious design expediencies.

Re claim 16, the use of “tabs” (e.g., brackets) to connect the fork bars to the beams would have been an obvious design expediency.

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5. Claims 2-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Morfin and Gephardt or Holscher, as applied to claim 1 above, and further in view of Ransill (US 6,554,116).

Ransill teaches rollers rotationally supported in longitudinal U-shaped bars, with a cover and support plates on the sides with holes near the top for the roller shafts.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Lee by constructing the fork bars as a U-shaped body with a cover and support plates, as taught by Ransill, as this would simply be a well known means of mounting rollers.

Re claim 3, to have provide "foreign substance outlets", e.g., holes, at the bottom of the U-shaped bodies would have been an obvious design expediency for easier maintenance.

6. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Morfin and Gephardt or Holscher, as applied to claim 1 above, and further in view of Takahiro (US 5,083,891).

Takahiro teaches bumpers 14 (stoppers) and in view thereof, it would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Lee with stoppers to place the cargo at a desired position, as this would provide added convenience and safety.

Re claims 18 and 19, the addition of a limit switch and distance sensor would be obvious further design expediciencies for increased flexibility.

7. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Morfin and Gephardt or Holscher, as applied to claim 1 above, and further in view of Stolzer (US 5,324,157).

Lee as modified does not show a weight sensor for measuring deflection of the longitudinal beams. Stolzer teaches a weight sensing means by determining deflection of a beam 20 as an electric signal that can be evaluated. It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Lee by measuring beam deflection to determine the weight of cargo, as suggested by Stolzer, so as to have an accurate indication of the weight of cargo on the shelves. Although Stolzer does not explicitly teach generating a signal for overweight cargo, it is obvious that once the weight of the cargo is known and converted to an electric signal, that information can be used in any appropriate manner, including as an indication of overweight cargo.

8. Applicant's arguments with respect to claims 1-4 and 6-20 have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Keenan/
Primary Examiner
Art Unit 3652

jwk
4/06/09